

CLAIMS

What is Claimed is:

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- 1 A horizontal form-fill and seal machine for packaging consumer products, said horizontal form-fill-and-seal machine comprising:
- means for providing a continuous length of packaging film having two longitudinal edges;
 - means for placing said consumer products to be packaged at intervals along a longitudinal half of said continuous length of packaging film;
 - 10 means for feeding a continuous supply of zippers between a center of said continuous length of packaging film and said consumer products;
 - means for folding said continuous length of packaging film down the center thereof and over upon said consumer products and said continuous supply of zippers;
 - means for sealing said continuous supply of zippers to said folded continuous
 - 15 length of packaging film;
 - means for sealing said longitudinal edges of said folded continuous length of packaging film to one another opposite to said film fold; and
 - means for sealing said folded continuous length of packaging film crosswise at intervals between said consumer products to create individual packages.
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2. The horizontal form-fill-and seal-machine of claim 1, wherein said zipper feeding means feeds said continuous supply of zippers proximal to said film fold.
3. The horizontal form-fill-and-seal machine of claim 1, further including means for
- 25 forming a weakness area proximal to the folded continuous length of packaging film thereby providing an area for opening the package.

4. The horizontal form-fill-and-seal machine of claim 3, further including means for forming a notch within the cross-sealed area of said packaging film thereby facilitating a removal of the packaging film along the weakness area.
5. The horizontal form-fill-and-seal machine of claim 1, wherein said continuous supply of zippers further includes attached sliders.
6. The horizontal form-fill-and-seal machine of claim 5, further including a means for providing a pair of end stops spaced at zipper lengths conforming to said individual packages such that the end stops retain the sliders on the zipper.
7. The horizontal form-fill-and-seal machine of claim 6, further comprising means for creating an aperture in the folded continuous length of packaging film exposing at least a slider portion of said zipper.
8. The horizontal form-fill-and-seal machine of claim 4 wherein said weakness area is a plurality of scored lines.
9. The horizontal form-fill-and-seal machine of claim 4 wherein said weakness area is a plurality of dimples.
10. The horizontal form-fill-and-seal machine of claim 4 wherein said weakness area is a plurality of perforations.

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11. A method for packaging consumer products on a horizontal form-fill-and-seal machine comprising
providing a continuous length of packaging film having two longitudinal edges;
5 placing said consumer products to be packaged at intervals along one half of said continuous length of packaging film;
feeding a continuous supply of zippers between the center of said continuous length of packaging film and said consumer products;
10 folding said continuous length of packaging film continuously down the center thereof and over said consumer products and said continuous supply of zippers;
sealing said continuous supply of zippers to said folded continuous length of packaging film;
sealing said longitudinal edges of folded continuous length of packaging film to one another;
15 sealing said folded continuous length of packaging film crosswise at intervals between said consumer products to create individual packages.

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12. The method in accordance with claim 11, wherein said continuous supply of zippers is fed proximal to said film fold.

13. The method in accordance with claim 11 further including the step of forming a weakness area proximal to the folded continuous length of packaging film thereby providing an area for opening the package.

14. The method in accordance with claim 13, further including the step of forming a notch within the cross-sealed area of said packaging film thereby facilitating a removal of the packaging film along the weakness area.

15. The method in accordance with claim 11, wherein said continuous supply of zippers further includes attached sliders.

5 16. The method in accordance with claim 15, further including the step of placing a pair of end stops at zipper lengths conforming to said individual packages such that the end stops retain the attached sliders on the zippers.

- 17. The method in accordance with claim 16, further including the step of creating an aperture in the folded continuous length of packaging film exposing at least a slider
10 portion of said zipper.

18. The method in accordance with claim 14 wherein said weakness area is a plurality of scored lines.

15 19. The method in accordance with claim 14 wherein said weakness area is a plurality of dimples.

20. The method in accordance with claim 14, wherein said weakness area is a plurality of perforations.

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21. An apparatus for packaging consumer products, said apparatus comprising:
a packaging film dispenser wherein said packaging dispenser provides a continuous length of packaging film from a packaging film supply;
a product dispenser wherein said product dispenser places consumer products to
25 be packaged at intervals along a longitudinal half of said continuous length of packaging film;

a zipper supplier wherein said zipper supplier feeds a continuous supply of zippers between a center of said continuous length of packaging film and said consumer products;

5 a fold-guide wherein said fold-guide folds said continuous length of packaging film down the center thereof upon said consumer products and said continuous supply of zippers;

a first sealing bar wherein said sealing bar seals the longitudinal edges of said folded continuous length of packaging film to one another opposite to said film fold;

10 a second sealing bar wherein said second sealing bar seals said continuous supply of zippers to packaging film; and

a heated cutter wherein said heated cutter seals said folded continuous length of packaging film crosswise at intervals between said consumer products while separating an individual package from the apparatus.

15 22. The apparatus in accordance with claim 21, wherein said zipper supplier feeds said continuous supply of zippers proximal to said film-fold.

20 23. The apparatus in accordance with claim 21, further comprising a weakening mechanism wherein said weakening mechanism forms a weakness area proximal to the folded continuous length of packaging film.

25 24. The apparatus in accordance with claim 23, wherein said heated cutter forms a notch within the cross-sealed area of said packaging film thereby facilitating removal of the packaging film along the weakness area.

25 25. The apparatus in accordance with claim 21, wherein said continuous supply of zippers further includes attached sliders.

26. The apparatus in accordance with claim 25, further including an end stop inserter for providing a pair of end stops spaced at zipper lengths conforming to said individual packages such that the end stops retain the sliders on the zipper.

5 27. The apparatus in accordance with claim 26, further comprising a cutting lip wherein said cutting lip creates an aperture in the folded continuous length of packaging film exposing at least a slider portion of said zipper.

10 28. The apparatus in accordance with claim 24 wherein said weakness area is a plurality of scored lines.

29. The apparatus in accordance with claim 24 wherein said weakness area is a plurality of dimples.

15 30. The apparatus in accordance with claim 24 wherein said weakness area is a plurality of perforations.